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(54) SUPER OXIDE DISMUTASE-LIKE AGENT, ELASTASE INHIBITOR, COLLAGENASE INHIBITOR, COLLAGEN PRODUCTION-PROMOTING AGENT, ESTROGEN-LIKE AGENT AND HYALURONIC ACID PRODUCTION-PROMOTING AGENT, AND SKIN COSMETIC

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain an SOD-like agent, an elastase inhibitor, a collagenase inhibitor, a collagen production-promoting agent, an estrogen-like agent and a hyaluronic acid production-promoting agent, respectively having excellence in SOD-like action, elastase-inhibiting action, collagenase-inhibiting action, collagen production-promoting action, estrogen-like action and hyaluronic acid production-promoting action, excellent in feeling in use and safety when applied to the skin and remarkably useful for preventing and/or improving aging of the skin.

SOLUTION: The super oxide dismutase(SOD)-like agent, elastase inhibitor, collagenase inhibitor, collagenase production-promoting agent, estrogen-like agent and hyaluronic acid production-promoting agent are extracted from plants belonging to Boraginaceae Ehretia, selected from changbut, Marubachichishanoki, Ryukyuchishanoki and Styrax japonica, and the cosmetic contains the aforesaid agents as effective ingredients to have skin aging- preventing and improving effects.

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**CLAIMS**

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[Claim(s)]

[Claim 1] the Chang bat and mull -- punishment -- the SOD Mr. agent characterized by including the superoxide dismutase (SOD) Mr. matter extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 2] The SOD Mr. agent according to claim 1 which contains the SOD Mr. matter which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 3] the Chang bat and mull -- punishment -- the elastase inhibitor characterized by including the elastase inhibitor extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 4] The elastase inhibitor according to claim 3 which contains the elastase inhibitor which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 5] the Chang bat and mull -- punishment -- the collagenase inhibitor characterized by including the collagenase inhibitor extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 6] The collagenase inhibitor according to claim 5 which contains the collagenase inhibitor which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 7] the Chang bat and mull -- punishment -- the collagen production promotion agent characterized by including the collagen production promoting agent extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 8] The collagen production promotion agent according to claim 7 which contains the collagen production promoting agent which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 9] the Chang bat and mull -- punishment -- the estrogen Mr. agent characterized by including the estrogen Mr. matter extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 10] The estrogen Mr. agent according to claim 9 which contains the estrogen Mr. matter which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 11] the Chang bat and mull -- punishment -- the hyaluronic acid production promotion agent characterized by including the hyaluronic acid production promoting agent extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[Claim 12] The hyaluronic acid production promotion agent according to claim 11 which contains the hyaluronic acid production promoting agent which extracts the leaf of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[Claim 13] The charge of skin makeup characterized by containing the active principle of 12 claim 1 thru/or given in any 1 term.

[Claim 14] Furthermore, the charge of skin makeup according to claim 13 which did 0.01-10 mass %

combination of a whitening agent to the whole charge of skin makeup.

[Claim 15] The charge of skin makeup according to claim 14 whose whitening agent is one sort chosen from an ascorbic acid or its derivative, placental extract, chamomillae flos extractives, arbutin, ellagic acid, RUSHINORU, and kojic acid, or two sorts or more.

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**DETAILED DESCRIPTION**

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**[Detailed Description of the Invention]****[0001]**

**[Field of the Invention]** The superoxide dismutase whose this invention is a catalyst enzyme which changes super oxide into a hydrogen peroxide An appearance agent, the elastase inhibitory action agent which checks the elastase activity which participates in reduction and the denaturation of an elastin, (It is hereafter written as "SOD") The collagenase inhibitory action agent which checks the collagenase activity which participates in reduction and the denaturation of a collagen, The collagen production promotion agent which has the operation which activates production of the collagen by fibroblast, It is related with the charge of skin makeup which contained these active principles in the estrogen Mr. agent which has the same operation as the estrogen which is a kind of a female sex hormone and the hyaluronic acid production promotion agent which is seen by the mesenchymal tissue, and which is a mucopolysaccharide, and the list, and equipped them with aging prevention and the improvement effect of the skin.

**[0002]**

**[Description of the Prior Art]** It is generated in a living body intracellular energy metabolism process, and active oxygen has super oxide (namely, superoxide anion produced in the one electron reduction of an oxygen molecule) ( $-O_2^-$ ), a hydrogen peroxide ( $H_2O_2$ ), a hydroxy radical ( $-OH$ ), etc.

**[0003]** Although these active oxygen is indispensable for the sterilization device of phagocyte and the role important for removal of a virus or a cancer cell is played Superfluous generation of active oxygen attacks the living body internal division child who constitutes the film and an organization in the living body. It is thought that a bridge is decomposed, denaturalized constructed in body tissues, such as a collagen, or the peroxy lipid which oxidizes in fats and oils and does a failure to a cell is generated, and it is thought that these failures caused by active oxygen cause aging, such as the Siwa formation of the skin and an elasticity fall of the skin.

**[0004]** In this case, although superfluous super oxide is serially eliminated by the catalysis of intracellular superoxide dismutase (SOD), for the fall of this SOD operation to pose a problem, and to add and take in and medicate an eating-and-drinking article, the charge of skin makeup, and drugs with SOD or the SOD Mr. matter is tried.

**[0005]** Although it was checked as matter which has such an active oxygen elimination operation that a glutathione, vitamin C, E, B6, butylhydroxytoluene, a butyl hydroxy aniline, etc. are effective, all have a problem in the point of the stability at the time of blending with the charge of skin makeup, and safety. Moreover, various natural products are found out as SOD Mr. matter (reference, such as JP,64-50877,A and JP,3-83548,A).

**[0006]** Moreover, the epidermis and dermis of the skin are constituted by extra-cellular matrices which are out of an epidermal cell, fibroblasts, and these cells, and support skin structure, such as an elastin and a collagen. In the young skin, when the interaction of these skin tissue maintains homeostasis, moisture maintenance, flexibility, resiliency, etc. are secured, and the skin does not try not to have a flare or gloss in appearance, but is by carrying out, and is maintained by the condition.

**[0007]** In recent years, especially the intervention of a matrix unit protease is pointed out as a factor which guides this change. Although collagenase (matrix METARO protease), MMP-1 [ i.e., ], is known also in the matrix unit protease as an enzyme which decomposes Type I which are the main constituents of the dermis matrix of the skin, and an III collagen, it is possible that the manifestation increases greatly by the exposure of ultraviolet rays, serves as a cause of reduction and the denaturation of the collagen by ultraviolet rays, and

becomes big factors, such as formation of Siwa of the skin. Therefore, promotion of collagen production and inhibition of collagenase activity are important when preventing and improving aging of the skin.

[0008] In order to prevent and improve aging of the skin by the above devices, applying the matter which has a moisturization operation of mucopolysaccharide [ , such as the sugar which is a natural moisturizing factor (NMF), amino acid, an organic acid, pyrrolidone carboxylate, a collagen, and hyaluronic acid ], glycerol, 1, and 3-butylene glycol etc., and raising the moistness of the skin is carried out most ordinarily.

[0009] On the other hand, the skin aging accompanying aging is considered that it is a cause that secretion of the estrogen which is a kind of a female sex hormone declines. That is, estrogen is deeply concerned with health maintenance of an adult woman, and the lack of secretion causes various internal medicine-diseases, and also becoming the cause of change of the skins which are not desirable, such as an anaphylaxis of the skin, a resiliency fall, and reduction of grace, is known.

[0010] Then, prescribing for the patient the matter which carries out the same operation as estrogen to the woman after the menopause which declines in secretion of estrogen endermically or in taking orally is performed. As this estrogen Mr. agent, steroid system estrogen, non-steroid system estrogen, a flavone system compound, etc. are used conventionally.

[0011] Moreover, hyaluronic acid is mainly produced by the fibroblast of dermis, and although it is indispensable sugar protein in order to improve the freshness of the skin, ductility, and gloss, it decreases in process of the skin aging represented by aging. Therefore, if promotion of hyaluronic acid production can be raised and reduction in hyaluronic acid can be compensated, it will be thought that prevention of skin aging is attained.

[0012]

[Problem(s) to be Solved by the Invention] However, it excels in safety and productivity, and though it is cheap, the present condition is that what a request of the need person to the superoxide dismutase Mr. agent which has prevention and an improvement effect, and the whitening effectiveness, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production promotion agent is very strong, and may still satisfy aging of the high skin enough is not offered.

[0013] This invention solves many problems in the former under such a situation, and makes it a technical problem to attain the following purposes. Namely, the SOD Mr. agent whose this invention is a catalyst enzyme which changes super oxide into a hydrogen peroxide, The elastase inhibitory action agent which checks the elastase activity which participates in reduction and the denaturation of an elastin, The collagenase inhibitory action agent which checks the collagenase activity which participates in reduction and the denaturation of a collagen, The collagen production promotion agent which has the operation which activates production of the collagen by fibroblast, The estrogen Mr. agent which has the same operation as the estrogen which is a kind of a female sex hormone, And it aims at containing these active principles in the hyaluronic acid production promotion agent which is seen by the mesenchymal tissue and which is a mucopolysaccharide, and a list, and providing them with aging prevention / improvement operation of the skin and the charge of skin makeup further equipped with the whitening effectiveness.

[0014]

[Means for Solving the Problem] In order that this invention person may solve the above-mentioned technical problem, as a result of repeating research wholeheartedly, the extract of gromwell CHISHANOKI group (Ehretia) vegetation carried out the knowledge of having a SOD Mr. operation, elastase inhibitory action, collagenase inhibitory action, a collagen production promotion operation, a estrogen Mr. operation, and a hyaluronic acid production promotion operation.

[0015] namely, the Chang bat and mull -- punishment -- the extract of the gromwell CHISHANOKI group (Ehretia) vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI -- The active principle extracted and obtained with water, hydrophilic organic solvents, or these mixed solvents especially the leaf, the scapus, the branches, or these mixed parts of the Chang bat The outstanding SOD Mr. operation, elastase inhibitory action, collagenase inhibitory action, It has a collagen production promotion operation, a estrogen Mr. operation, and a hyaluronic acid production promotion operation, and the charge of skin makeup containing this active principle came to make a header and this invention for the ability of aging of high safety and the skin to be prevented and/or improved.

[0016] Therefore, this invention provides the following superoxide dismutase Mr. agent, an elastase inhibitor, a

collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent and a hyaluronic acid production promotion agent, and a list with the charge of skin makeup.

[0017] invention of claim 1 -- the Chang bat and mull -- punishment -- it is the SOD Mr. agent characterized by including the superoxide dismutase (SOD) Mr. matter extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0018] Invention of claim 2 is a SOD Mr. agent according to claim 1 which contains the SOD Mr. matter which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0019] invention of claim 3 -- the Chang bat and mull -- punishment -- it is the elastase inhibitor characterized by including the elastase inhibitor extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0020] Invention of claim 4 is an elastase inhibitor according to claim 3 which contains the elastase inhibitor which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0021] invention of claim 5, the Chang bat, and mull -- punishment -- it is the collagenase inhibitor characterized by including the collagenase inhibitor extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0022] Invention of claim 6 is a collagenase inhibitor according to claim 5 which contains the collagenase inhibitor which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0023] invention of claim 7 -- the Chang bat and mull -- punishment -- it is the collagen production promotion agent characterized by including the collagen production promoting agent extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0024] Invention of claim 8 is a collagen production promotion agent according to claim 7 which contains the collagen production promoting agent which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0025] invention of claim 9 -- the Chang bat and mull -- punishment -- it is the estrogen Mr. agent characterized by including the estrogen Mr. matter extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0026] Invention of claim 10 is a estrogen Mr. agent according to claim 9 which contains the estrogen Mr. matter which extracts the leaf, the scapus, the branches, or these mixed parts of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0027] invention of claim 11 -- the Chang bat and mull -- punishment -- it is the hyaluronic acid production promotion agent characterized by including the hyaluronic acid production promoting agent extracted from the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI as an active principle.

[0028] Invention of claim 12 is a hyaluronic acid production promotion agent according to claim 11 which contains the hyaluronic acid production promoting agent which extracts the leaf of the Chang bat with water, hydrophilic organic solvents, or these mixed solvents, and is obtained as an active principle.

[0029] Invention of claim 13 is a charge of skin makeup characterized by containing the active principle of 12 claim 1 thru/or given in any 1 term.

[0030] Invention of claim 14 is the charge of skin makeup according to claim 13 carried out 0.01-10 mass % combination to the whole charge of skin makeup about a whitening agent further.

[0031] Invention of claim 15 is a charge of skin makeup according to claim 14 whose whitening agent is one sort chosen from an ascorbic acid or its derivative, placental extract, chamomillae flos extractives, arbutin, ellagic acid, RUSHINORU, and kojic acid, or two sorts or more.

[0032] In addition, although the safety of the gromwell CHISHANOKI group vegetation (especially Chang bat) which is the extraction feed of the various active principles of this invention drunk as a folk medicine, especially tea is high These vegetation A SOD Mr. operation, elastase inhibitory action, collagenase inhibitory action, It has a collagen production promotion operation, a estrogen Mr. operation, and a hyaluronic acid

production promotion operation, and it is not known at all in aging of the skin that it is effective in prevention and/or an improvement, but this is this invention person's new knowledge.

[0033]

[Embodiment of the Invention] Hereafter, it explains in more detail about this invention. The SOD Mr. agent of this invention, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production promotion agent contain the SOD Mr. matter extracted from gromwell CHISHANOKI group vegetation, respectively, elastase inhibitor, collagenase inhibitor, the collagen production promoting agent, the estrogen Mr. matter, and the hyaluronic acid production matter as an active principle.

[0034] here -- as gromwell CHISHANOKI group (Ehretia) vegetation -- the Chang bat (Ehretia microphylla Lam.) and mull -- punishment -- one sort chosen from CHISHANOKI (Ehretia dicksonii Hance), Ehretia dichotoma (Ehretia dichotoma Bl.), and CHISHANOKI (Ehretia ovalifolia Hassk.) or two sorts or more are mentioned, and the Chang bat is desirable also in these.

[0035] The Chang bat (called the Japan name "FUKUMANGI") is a with a height [ belonging to a gromwell CHISHANOKI group / 1-3m ] evergreen shrub, and is distributed over Ryukyu south of Amami Oshima, China Minabe, Malaysia, and India. It acts to a short branch as the bundle student of the leaf in dark green, and it is 2-5cm in die length in \*\*\*\*\*.

[0036] Although this Chang bat has been drunk as a folk medicine, especially tea, having a SOD Mr. operation, elastase inhibitory action, collagenase inhibitory action, a collagen production promotion operation, a estrogen Mr. operation, and a hyaluronic acid production promotion operation is not known at all.

[0037] In this invention, which part of the leaf of the Chang bat, a stem, and a branch may be used, and it can also be used combining two or more sorts of different parts.

[0038] Although the detail of the SOD Mr. matter which gromwell CHISHANOKI group (Ehretia) vegetation contains, elastase inhibitor, collagenase inhibitor, the collagen production promoting agent, the estrogen Mr. matter, and the hyaluronic acid production matter is unknown, it can be acquired by the extract approach generally used for the vegetable extract using the above-mentioned extraction feed. both [ in addition, ] the dry matters obtained by drying the diluent of an extract and this extract, and this extract these rough purification objects or a purification object -- although -- it is contained.

[0039] For example, after drying gromwell CHISHANOKI group vegetation (especially the leaf, the scapus, the branches, or these mixed parts of the Chang bat), it can obtain remaining as it is or by grinding using a primary crusher and presenting solvent extraction. Desiccation may be performed by sunlight and you may carry out using the dryer usually used. Moreover, since cleaning etc. is pretreated with nonpolar solvents, such as a hexane and benzene, the leaf, the scapus, the branches, or these mixed parts of the Chang bat may be used as extraction feed. By pretreating cleaning etc., extract processing by the polar solvent of the leaf of the Chang bat, a scapus, branches, or these mixed parts can be performed efficiently.

[0040] As a solvent used for an extract, it is desirable to use water, hydrophilic organic solvents, or these mixed liquor at the temperature below a room temperature thru/or the boiling point of a solvent.

[0041] What performed various processings to these besides being pure water, tap water, well water, mineral water, mineral water, hot spring water, springwater, fresh water, etc. as water which can be used as an extracting solvent is contained. As processing performed to water, adjustment of purification, heating, sterilization, sterilization, filtration, the ion exchange, and osmotic pressure, buffer-ization, etc. are included, for example. Therefore, purified water, hot water, ion exchange water, a physiological saline, a phosphate buffer solution, phosphate buffered saline, etc. are contained in the water which can be used as an extracting solvent in this invention.

[0042] as said hydrophilic organic solvent, the lower alcohol; acetone of the carbon numbers 1-5, such as a methanol, ethanol, propyl alcohol, and isopropyl alcohol, a methyl ethyl ketone, etc. are low-grade, for example -- the polyhydric alcohol of the carbon numbers 2-5 of aliphatic series ketone; 1, 3-butylene glycol, propylene glycol, an isopropanal pyrene glycol, a glycerol, etc. is mentioned, and the mixed solvent of these hydrophilic-properties organic solvent and water etc. can be used. In addition, when using the mixed stock solvent of water and a hydrophilic organic solvent, in the case of lower alcohol, it is desirable to carry out 10-90 mass section addition of the case of 1 - 40 mass section and polyhydric alcohol to the water 10 mass section to the water 10 mass section to the water 10 mass section in the case of 1 - 90 mass section and a low-grade aliphatic series



ketone.

[0043] In extracting the superoxide dismutase (SOD) Mr. matter, elastase inhibitor, collagenase inhibitor, the collagen production promoting agent, the estrogen Mr. matter, and the hyaluronic acid production matter, it is not necessary to adopt the special extract approach, and can extract under a room temperature thru/or reflux heating in this invention using the equipment of arbitration.

[0044] After putting for 30 minutes to 2 hours and eluting a fusibility component, specifically supplying gromwell CHISHANOKI group vegetation (especially the leaf, the scapus, the branches, or these mixed parts of the Chang bat) to the processing tub which filled the extracting solvent, and sometimes stirring if needed, it filters, a solid is removed, an extracting solvent is distilled out of the obtained extract, and an extract is obtained by drying. The amount of extracting solvents is usually the amount (mass ratio) of five to 15 times of extraction feed, and an extraction condition is usually about 1 - 4 hours at 50-95 degrees C, when water is used as an extracting solvent. Moreover, when the mixed solvent of water and ethanol is used as an extracting solvent, it is usually 30 minutes - about 4 hours at 40-80 degrees C. In addition, if safety of an extracting solvent is high, it can blend as it is and can use as various active principles of this invention, but although the extract obtained by extracting with a solvent considered as concentration liquid or its dry matter, the way tends to use it.

[0045] The obtained extract may process dilution, concentration, desiccation, purification, etc. according to a conventional method, in order to obtain the dry matters of the diluent of this extract or concentration liquid, and this extract, these rough purification objects, or a purification object.

[0046] Even if the obtained extract remains as it is, it can be used as a SOD Mr. agent, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production accelerator, but although considered as concentration liquid or its dry matter, it is easy to use the direction. In obtaining the dry matter of an extract, in order to improve hygroscopicity, carriers, such as a dextrin and cyclodextrin, may be added.

[0047] Moreover, since gromwell CHISHANOKI group vegetation, such as the Chang bat, has the characteristic smell, it is possible to perform purification aiming at decolorization, deodorization, etc. in the range from which the bioactive fall is not caused, and since it is not used in large quantities when adding in the charge of makeup, it is convenient practically also with un-refining. In addition, activated carbon treatment, adsorption resin treatment, ion-exchange-resin processing, etc. can specifically perform purification.

[0048] In addition, the natural extract which has other SOD Mr. operations, elastase inhibitory action, collagenase inhibitory action, a collagen production promotion operation, a estrogen Mr. operation, or a hyaluronic acid production promotion operation can be blended with the SOD Mr. agent, the elastase inhibitor, the collagenase inhibitor, the collagen production promotion agent, estrogen Mr. agent, and hyaluronic acid production accelerator of this invention if needed, and it can use for them as an active principle.

[0049] As such a natural extract, for example The Ampelopsis grossedentata extract, a ginkgo tree leaf extract, Persimmon juice, the Babel bark extract, a FUYUBEGONIA rhizome section extract, a glycyrrhiza leaf extract, The seaweed extract belonging to Fucus, Ascophyllum, the genus Lessonia, or the Derby rear group of brown algae, The seed extract of a pea, the extract of the Himalaya creeping saxifrage group vegetation, the Betula alba, Cinnamon, Tilia cordata, Natsu Tilia miqueliana, a Western linden, a linden, The plant extract, tamarind HASUKU extract which are chosen from the group which consists of a loquat and hamamelis, The extract from one sort or two sorts or more of vegetation chosen from URAJIROGASHI and/or a SHIRAKASHI extract etc. is mentioned. It is independent or these one sort can be used combining two or more sorts (for details). JP,5-316963,A, JP,8-231347,A, JP,11-171758,A, JP,11-199504,A, JP,11-315007,A, Reference, such as JP,2000-53578,A, JP,2000-191498,A, JP,2000-212058,A, JP,2000-229871,A, JP,2000-290190,A, JP,2001-64191,A, and JP,2001-97873,A. in addition, the blending ratio of coal of an active principle -- extract [ of gromwell CHISHANOKI group vegetation ]: -- it is desirable that it is said range of natural extract =1:0.01-1:5 (mass ratio).

[0050] According to a conventional method, it can pharmaceutical-preparation-ize and the gromwell CHISHANOKI group plant extract of this invention can also be offered, although it can be used as a SOD Mr. agent, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production accelerator even if it remains as it is. When pharmaceutical-preparation-izing, in order to make preservation and handling easy, the assistant of carriers which may be permitted pharmacologically, such as a dextrin and cyclodextrin, and other arbitration can be added. The extract from a



gromwell CHISHANOKI group plant extract can use the shape of powder, granularity, and a tablet etc. as the dosage forms of arbitration by pharmaceutical preparation-ization.

[0051] Since the SOD Mr. agent of this invention, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production accelerator are excellent in a feeling of use and safety at the time of applying to the skin while being able to prevent and/or improve aging of the skin, they are the the best for blending with the charge of skin makeup.

[0052] Although the class of charge of skin makeup, the bioactive of an extract, etc. can adjust suitably the loadings of the SOD Mr. agent of this invention, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production accelerator, they convert the suitable rate of combination into the extract of the standard Chang bat, and are about 0.01 to 10 mass % to the whole charge of skin makeup.

[0053] One sort chosen from a SOD Mr. agent, an elastase inhibitor, a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent, and a hyaluronic acid production accelerator or two sorts or more can be blended with the charge of skin makeup of this invention as an active principle. In this case, it is still more desirable to the whole charge of skin makeup 0.01 to 10 mass % and to do 0.1-5 mass % combination of a whitening agent especially.

[0054] As said whitening agent, for example An ascorbic acid or its derivative, sulfur, Placenta hydrolysate, ellagic acid or its derivative, kojic acid, or its derivative, A glucosamine or its derivative, arbutin or its derivative, a hydroxy cinnamon acid, or its derivative, A glutathione, Arnica extractives, Scutellaria root extractives, the Mulberry bark extractives, The Phycho extractives, the Ledebouriella extractives, a MANNENTAKE mycelium culture, or its extract, Linden extractives, peach leaf extractives, the Rose Fruit extractives, sophorae radix extractives, JIYUEKISU, Angericae radix extractives, coix seed extract, oyster leaf extractives, rhei rhizoma extractives, Moutan bark extractives, hamamelis extractives, horse chestnut extractives, St. John's wort extractives, oil solubility glycyrrhiza extract (a liquorice hydrophobic flavone, a grab lysine, glabrene, licochalcone A), etc. are mentioned, it is independent or these one sort can be used combining two or more sorts. It is desirable to use one sort chosen from an ascorbic acid or its derivative, placental extract, chamomillae flos extractives, arbutin, ellagic acid, RUSHINORU, and kojic acid or two sorts or more from a viewpoint which raises the whitening effectiveness in the charge of skin makeup of this invention also in these.

[0055] In the charge of skin makeup of this invention Said SOD Mr. agent, an elastase inhibitor, With a collagenase inhibitor, a collagen production promotion agent, a estrogen Mr. agent and a hyaluronic acid production accelerator, and also a whitening agent, as a thing available as a constituent Although not restricted especially, an astringent, sterilization and an antimicrobial agent, an ultraviolet ray absorbent, a moisturizer, a cell activator, resolution and an antiallergic agent, the antioxidation and an active oxygen remover, fats and oils, lows, hydrocarbons, fatty acids, alcohols, ester, a surfactant, perfume, etc. are used. these constituents -- said Chang bat and mull -- punishment -- the use effectiveness which was excellent in more than which acts in multiplication and is usually expected with the extract of the gromwell CHISHANOKI group vegetation chosen from CHISHANOKI, Ehretia dichotoma, and CHISHANOKI when it uses together may be brought about

[0056] As said astringent, for example A citric acid or its salts, a tartaric acid, or its salts, A lactic acid or its salts, an aluminum chloride, potassium aluminum sulfate, Allantoin KURORU hydroxy aluminum, allantoin dihydroxy aluminum, The Para zinc phenolsulfonate, a zinc sulfate, JIYUEKISU, the Rose Fruit extractives, Hamamelis extractives, Geranium thunbergii Sieb. etZucc. extractives, tea catechins, a Lamium album var.barbatum extract, St. John's wort extractives, rhei rhizoma extractives, cornflower extractives, KIZUTA extractives, queue can bar extractives, horse chestnut extractives, salvia extractives, the Melissa extractives, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0057] As said sterilization and antimicrobial agent, for example A benzoic acid, sodium benzoate, A paraoxybenzoic acid, distearyl chloride methylammonium, Benzethonium chloride, chlorhexidine hydrochloride, the admiration light corpuscle No. 101, the admiration light corpuscle No. 201, A salicylic acid, sodium salicylate, a sorbic acid, a halo cull van, resorcinol, The parachlorohenol, phenoxyethanol, bisabolol, hinokitiol, menthol, chitosan, a chitosan decomposition product, JIYUEKISU, sophorae radix extractives, an Isodon japonicus Hara extract, and a loquat -- extractives, yucca extractives, aloe extractives, cinnamon extractives, zedoary extractives, etc. mention -- having -- these one sort -- independent -- or it can use

combining two or more sorts.

[0058] As said ultraviolet ray absorbent, for example A beta-isopropyl hula non derivative, Urocanic acid, urocanic acid ethyl, oxybenzone, an oxybenzone sulfonic acid, A tetra-hydroxy benzophenone, a dihydroxy dimethoxy benzophenone, A dihydroxy benzophenone, cinoxate, diisopropyl cinnamon acid methyl, Methoxy cinnamon acid octyl, p-aminobenzoic-acid glyceryl, PARAJI methylamino amyl benzoate, PARAJI methyl benzoic-acid octyl, p aminobenzoic acid, p-aminobenzoic-acid ethyl, Titanium oxide, beta carotene, gamma-orizanol, rice bran extractives, aloe extractives, Birch extractives, white birch extractives, chamomillae flos extractives, henna extractives, CHOUGHIGURUMI extractives, ginkgo tree leaf extractives, chamomillae flos extractives, haw extractives, oil solubility glycyrrhiza extract, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0059] As said moisturizer, for example A serine, a glycine, threonine, an alanine, A collagen, a hydrolysis collagen, hydronalium NEKUCHIN, fibronectin, A keratin, an elastin, royal jelly, chondroitin sulfate heparin, A glycerophospholipid, glyceroglycolipid, sphingophospholipid, sphingoglycolipid, Linolic acid or its ester, eicosapentaenoic acid, or its ester Pectin, a lactobacillus bifidus fermentation object, a lactic-acid-fermentation object, a yeast extract, a lychee mycelium culture, or its extract, A wheat germ oil, an avocado oil, U.S. germ oil, jojoba oil, soybean phospholipid, gamma-orizanol, The Althaea officinalis extractives, coix seed extract, the Rehmannia Root extractives, zizyphi fructus extractives, Squill extractives, KIDACHI aloe extractives, burdock extractives, rosemary extract, Arnica extractives, wheat wheat bran, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0060] As said cell activator, for example A riboflavin or its derivative, a pyridoxine, or its derivative, A nicotinic acid or its derivative, pantothenic acid or its derivative, the alpha-tocopherol, or its derivative, Arnica extractives, ginseng extractives, rapeseed ginseng extractives, luffa extractives (saponin), Lithospermi radix extractives, cork tree bark extractives, Moutan bark extractives, peony extractives, Sapindus mukurossi extractives, carthami flos extractives, the Angelica keiskei extractives, and a loquat -- leaf extractives -- The Isodon japonicus extractives, creeping saxifrage extractives, the Engelhardtia chrysolepis Hance extractives, salvia extractives, garlic extractives, rosemary extract, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0061] As said resolution and antiallergic agent, for example An azulene, allantoin, Aminocaproic acid, indomethacin, lysozyme chloride, epsilon-aminocaproic acid, Oxybenzone, glycyrrhizic acid or its derivative, glycyrrhetic acid, or its derivative, The admiration light corpuscle No. 301, the admiration light corpuscle No. 401, diphenhydramine hydrochloride, tranexamic acid, or its derivative, Adenosine phosphate, estradiol, ESURON, ethinylestradiol, Cortisone, hydrocortisone, prednisone, progesterone, corticosterone, Arnica extractives, artemisia capillaris flower extractives, gardeniae fructus extractives, dokudami extract, Glycyrrhiza extract, angericae radix extractives, sagebrush extractives, the Sanguisorba officinalis extractives, Gentian extractives, the Phycho extractives, cnidium rhizome extractives, the Achillea millefolium extractives, coptis root extractives, beefsteak plant extractives, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0062] As said antioxidation and active oxygen elimination agent, for example Dibutylhydroxytoluene, Burylhydroxyanisole, \*\*\*\* vinegar propyl, Bayh Carin, a BAIKA lane, Super-oxide dismutase, a catalase, rosemary extractives, the Melissa extractives, Scutellaria root extractives, the Rose Fruit extractives, and a loquat -- leaf extractives -- Hop extractives, hamamelis extractives, peony extractives, SAGE extractives, Chinae-cortex extractives, chamomillae flos extractives, eucalyptus extractives, beefsteak plant extractives, ginkgo tree leaf extractives, Time extractives, cardamom extractives, character way extractives, nutmeg extractives, mace extractives, laurel extractives, clove extractives, turmeric extractives, the Polygonum hydropiper extractives, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts.

[0063] As said fats and oils, soybean oil, the linseed oil, sesame oil, a bran oil, cotton seed oil, rapeseed oil, safflower oil, corn oil, olive oil, camellia oil, an almond oil, castor oil, peanut oil, a cacao oil, palm kernel oil, beef tallow, a mink oil, jojoba oil, Oenotherae Biennis oil, horse oil, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts, for example.

[0064] As said lows, a carnauba wax, a candelilla low, beeswax, SARASHI beeswax, spermaceti wax, SERAKKUSU, and lanolin are mentioned, it is independent or these one sort can be used combining two or

more sorts, for example.

[0065] As said hydrocarbons, a liquid paraffin, vaseline, the Mai Crossley Stalin wax, a ceresin, squalane, the end of polyethylene, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts, for example.

[0066] As said fatty acids, stearin acid, linolic acid, a lauric acid, a myristic acid, a palmitic acid, a HEBENIN acid, a lanolin acid, oleic acid, undecylenic acid, isostearic acid, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts, for example.

[0067] As said alcohols, lauryl alcohol, cetyl alcohol, stearyl alcohol, lanolin alcohol, hydrogenation lanolin alcohol, oleyl alcohol, hexadecyl alcohol, 2-octyl dodecanol, a glycerol, a sorbitol, propylene glycol, 1, 3-butylene glycol, ethylene glycol or its polymer, grape sugar, white soft sugar, cholesterol, a phytosterol, the cetostearyl alcohol, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts, for example.

[0068] As said ester, oleic acid DESHIRU, butyl stearate, myristic-acid Millis Chill, lauric-acid hexyl, palmitic-acid isopropyl, myristic-acid isopropyl, myristic-acid octyldodecyl, dimethyl octanoic-acid hexyl DESHIRU, polypropyleneglycol dioleate, a diethyl phthalate, glyceryl monostearate, a trimyristin acid glycerol, lactic-acid cetyl, etc. are mentioned, it is independent or these one sort can be used combining two or more sorts, for example.

[0069] As said surface active agent, although the Nonion nature surface active agent, an anionic surface active agent, a cationic surface active agent, an amphoteric surface active agent, etc. can be used, there is no generating of skin disease especially, or the surface active agent by which adoption was carried out to slight cosmetics raw material criteria is desirable. For example, a soybean lecithin, yolk lecithin, a saponin, an oligo glycoside, a phospholipid system biosurfactant, An acyl peptide system biosurfactant, a polyoxyethylene polyoxypropylene glycol, The polyoxyethylene polyoxypropylene cetyl ether, polyoxyethylene polyoxypropylene butyl ether, Polyoxyethylene palm-oil-fatty-acid monoethanolamide, the polyoxyethylene lauryl ether, Polyoxyethylene lauryl ethereal sulfate triethanolamine, polyoxyethylene lauryl ethereal sulfate sodium, A polyoxyethylene lauryl ether phosphoric acid, polyoxyethylene lauryl ether sodium phosphate, Polyoxyethylene lanolin, polyoxyethylene lanolin alcohol,

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Since it became timeout time, translation result display processing is stopped.